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Activity-based Costing (ABC) -- AMC Pilot AMC PARC Conference 15 Oct 02

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Outline

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- 5. ABC POCs
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- 20. Lessons Learned
- 21. Future of ABC



ABC Implementation

- **Purpose:** Implement Activity-based Costing (ABC) at TACOM. Acquisition Center also served as pilot for AMC business area of Contracting.
- **Objectives:**
 - To leverage resources based on ABC and Cost Management analysis and workload analysis
 - To assist in identification of cost to support our major customers
 - To develop cost performance measures
 - To identify potential areas to review for business process improvement studies



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AMC Goals

- **Standard Activities categories to be used by all contracting groups**
 1. Plan Acquisition and solicit offers
 2. Evaluate offers and award PWD
 3. Administer Contracts
 4. Manage Acquisition Center
 5. Develop and Revitalize Workforce
 6. Other
- **Standard Cost Objects**
- **Weapon System Focus**
- **Replace Variable Cost to Procure**



ABC POCs, Contracting

- **AMC HQ - Harvey Mymit**
- **AMC Contracting - Karen Moser, Stephen Knight**
- **AMCOM - Debbie Childress, Brian Wood, Tom Mailey**
- **CECOM - Estelle Klose, Deborah Nowell**
- **OSC - Daniel Miller, Trudy Hallgren**
- **RMAC - Lance Davis, Angela Billups**
- **TACOM - Joan Moses**

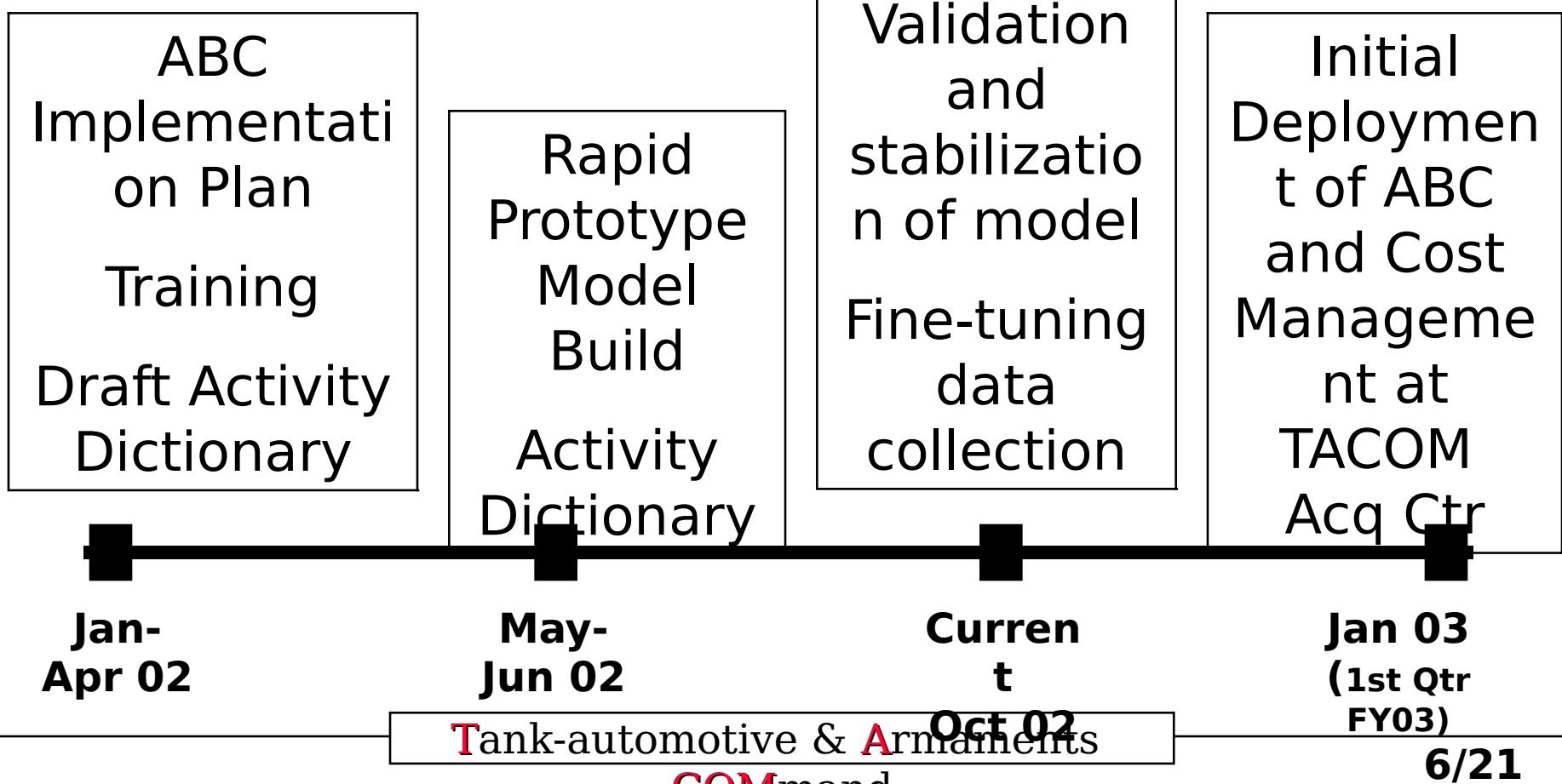


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TACOM Timeline





Current Actions

- Fine-tuning ABC model and data collection techniques
 - Automated data feeds from resource financial systems into OROS ABC software model
 - Automation of activity labor hour data collection
 - Development of standard “cost objects” in the model for “cost to buy” metrics
- Validation of ABC data
- Sharing ABC activity dictionary and ABC “lessons learned” with AMC and other MSCs



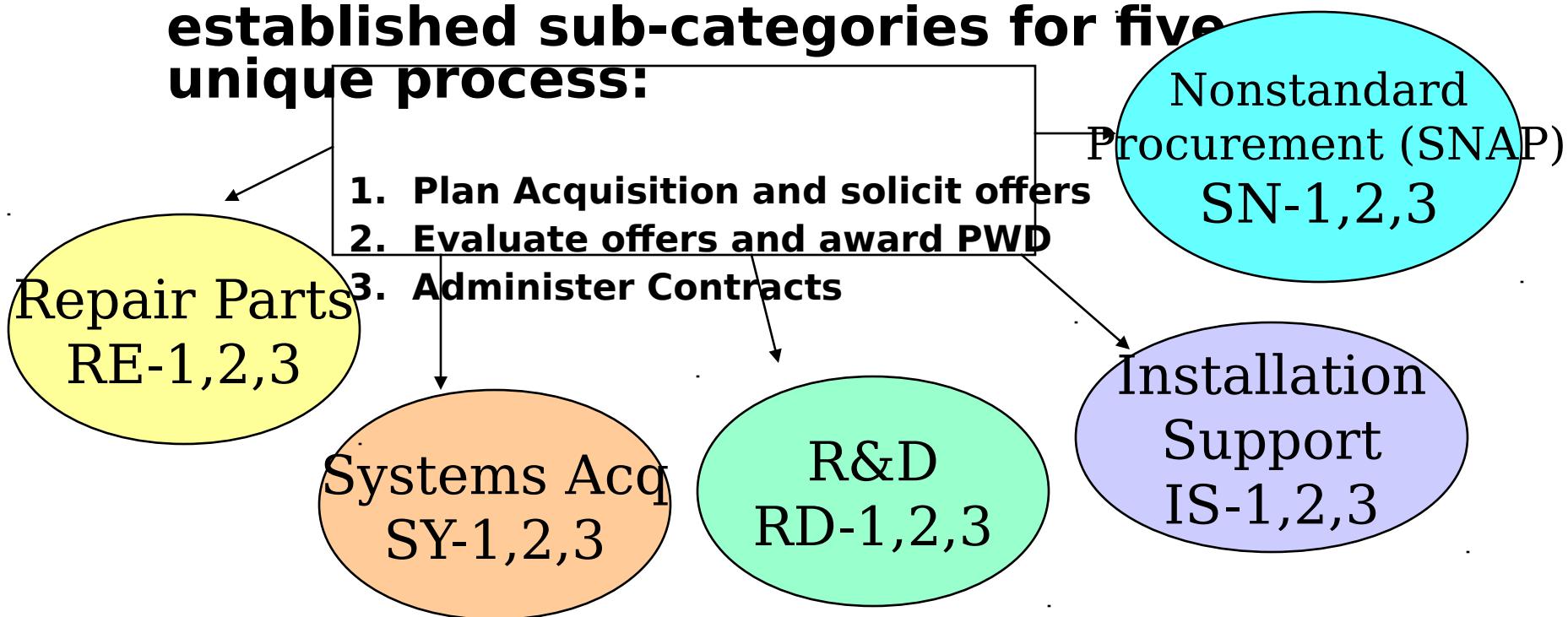
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Process-Oriented Approach

**Three Direct Mission Activities --
established sub-categories for five
unique process:**





Indirect and Other Activities

4. Manage Acquisition Center

Maintain Procurement Systems & Infrastructure

Metrics & Process Improvement

Sustain Business

Perform Management & Admin Duties

5. Develop and Revitalize Workforce

Hiring and workforce development

Attend training

Conduct in-house training

6. Other Mission Activities

Manage Industrial Base

Comp Adv/
Ombudsman

PEO/PM Matrix
Support (Acquisition Planning)

Other AMC and TACOM

mission activities

2. Resource Costs are “driven” to Workgroups

The screenshot shows the Oros Modeler application interface. On the left is a tree view of resource categories and account data. On the right is a table of workgroup details. A callout box in the center-right area contains text about Full Time Equivalents (FTEs) being used to allocate labor costs.

Resource Hierarchy:

- Resource
 - R&A Account Data
 - WARREN R&A Account Data
 - BMO and Front Office
 - Acquisition Center Divisions
 - Civilian Labor (Warren)
 - Military Labor Estimated
 - AMC Interns Estimated
 - DA Funded Position Es
 - Other (Warren - 7AC)
 - Training (Warren - 7AC)
 - Competition Management O
 - RIA Account Data
 - PICA Account Data
 - AQ Workgroups

Workgroup Details Table:

Name	Name	ReferenceN	DriverQuantity	ReferenceNumber
	R&D/Base/SNAP Contracting Div (Salaries)	WG-AQ-AB-CL	75.00	WG-AQ-AB-CL
	Process Mgt Div (Salaries)	WG-AQ-AM-CL	75.33	WG-AQ-AM-CL
	Deployment Support Div (Salaries)	WG-AQ-AD-CL	46.00	WG-AQ-AD-CL
	Heavy Combat Div (Salaries)	WG-AQ-AH-CL	57.00	WG-AQ-AH-CL
	Light Combat Div (Salaries)	WG-AQ-AL-CL	57.00	WG-AQ-AL-CL
	Brigade Combat Team (Salaries)	WG-AQ-I-CL	14.00	WG-AQ-I-CL
	Tactical Vehicle Div (Salaries)	WG-AQ-AT-CL	74.00	WG-AQ-AT-CL

Callout Box Text:

Full Time
Equivalents
(FTEs) are used
to allocate labor
costs

3. Each workgroup estimates the amount of labor time spent doing activities (defined in dictionary).

Employee activity data can be easily collected through an Excel spreadsheet.

4. Workgroup Resource Costs are “driven” to the activities performed by each workgroup

The screenshot shows the Oros Modeler interface. On the left, a tree view displays organizational structures under 'Resource' and 'Workgroups'. A specific node under 'Warren site - workgroups' is selected, showing its FTEs. To the right, a detailed table lists various activities with their corresponding DriverQuantity (FTEs). A cyan vertical bar highlights the 'DriverQuantity' column.

Name	DriverQuantity	Reference
Plan Acquisition/Solicit Offers for Repair Parts	5.74	ACT-1-RB
Receive/Evaluate Offers and Award PWD	5.30	ACT-2-RB
Administer Repair Parts Contracts	5.40	ACT-3-RB
Plan/Solicit Systems Procurement	5.16	ACT-1-SY
Evaluate/Award Systems Procurement	6.17	ACT-2-SY
Administer Systems Contracts	10.19	ACT-3-SY
Plan/Solicit R&D Procurement	0.09	ACT-1-RD
Evaluate/Award R&D Procurement	0.04	ACT-2-RD
Administer R&D Contracts	0.15	ACT-3-RD
Maintain Procurement Systems/Infrastructure	0.01	ACT-4-1
Analyze & Improve Procurement Mission	0.67	ACT-4-2
Perform Mgt & Admin Responsibilities	4.64	ACT-4-3
Sustain Business	0.19	ACT-4-4
Attend Training	1.92	ACT-5-1
Develop and Revitalize Workforce	2.71	ACT-5-3
Manage CBO/CBU	0.90	ACT-6-CB
Manage Command Competition Advocate	0.05	ACT-6-CC

This example uses Full Time Equivalents (FTEs). Other potential “drivers” could be manhours or percentages.

5. The ABC model calculates activity costs based on the driver assignments in the model

The screenshot shows the Dros Modeler application interface. The title bar reads "Dros Modeler - [Activity [2ndQtrFY02] [Named View -]]". The menu bar includes File, Edit, Model, Modules, Period, View, Tools, Window, and Help. The toolbar contains various icons for file operations like Open, Save, Print, and search. The main window displays a hierarchical tree view of activity costs. The columns in the table are Name, Cost, ReferenceNumber, UserOutputQty, and Activity Number.

Name	Cost	ReferenceNumber	UserOutputQty	Activity Number
Activity	\$14,338,620.66			
Process Summary	\$14,338,620.66			
Processes - Warren	\$8,756,420.66			ACT-W
Major Procurement Processes - WARREN	\$5,427,770.66			ACT-MP-W
Repair Parts Procurement - WARREN	\$1,540,063.41			ACT-RE-W
Plan Acquisition/Solicit Offers for Repair P	\$495,987.59			ACT-1-RE-W
Receive/Evaluate Offers and Award PwC	\$485,443.71			ACT-2-RE-W
Administer Repair Parts Contracts	\$558,632.11			ACT-3-RE-W
Systems Acquisition Procurement - WARREN	\$2,804,556.05			ACT-SY-W
R&D Procurement - WARREN	\$425,381.66			ACT-RD-W
Installation Support Procurement - WARREN	\$439,504.97			ACT-IS-W
SNAP	\$218,264.57			ACT-SN-W
Manage Acquisition Center	\$1,821,059.38			ACT-4-W
Maintain Procurement Systems/Infrastructure	\$637,732.80			ACT-4-1-W
Analyze & Improve Procurement Mission	\$261,514.02			ACT-4-2-W
Perform Mgt & Admin Responsibilities	\$656,375.14			70
Sustain Business	\$265,437.43			ACT-4-4-W
Develop and Revitalize Workforce	\$958,841.76			ACT-5-W
Attend Training	\$509,770.06			ACT-5-1-W
Conduct In-house Training	\$11,539.22			ACT-5-2-W
Develop and Revitalize Workforce	\$437,532.49			ACT-5-3-W
Other Mission Activities	\$548,748.85			ACT-6-W
Unassigned Resources-Warren	\$0.00	ACT Unassigned_W		
Processes - RIA	\$2,863,300.00			ACT-R
Processes - PICA	\$2,718,900.00			ACT-P

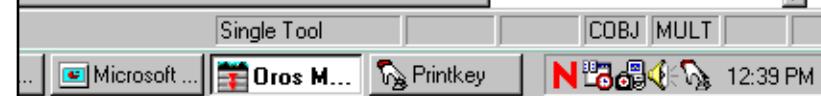
The status bar at the bottom shows "Single Tool", "ACT", "MULT", "CALC", and the system time "12:04 PM".

7. The model calculates “average” cost per output,

Name	Cost	UserOutputQty	UnitCost	ReferenceNumber
Acquisition Center Services	\$14,338,620.66			ACC
Warren	\$8,756,420.66			ACC-W
TACOM Acq Ctr Management	\$75,368.22			ACC-AQ
Repair Parts Procurement-W	\$2,523,100.46			ACC-W-RP
Repair Parts Delivery Orders-W	\$227,988.69	300.00	\$759.96	ACC-W-RP-DO
Repair Parts Purchase Orders-W	\$361,685.76	300.00	\$1,205.62	ACC-W-RP-PO
Repair Parts Contracts-W	\$830,226.46	300.00	\$2,767.42	ACC-W-RP-C
Repair Parts IDIQ Basic -W	\$3,228.21	1.00	\$3,228.21	ACC-W-RP-IDIQ
Repair Parts Contract Administration-W	\$1,099,971.34	2,500.00	\$439.99	ACC-W-RP-CA
Systems Procurement-W	\$3,370,035.17			ACC-W-SY
R&D Procurement-W	\$638,274.45			ACC-W-RDP
SNAP-W	\$284,750.55			
Installation Support Procurement-W	\$851,318.14			
Industrial Preparedness Mission-W	\$209,199.27			
Competition Mgt Advocate/Ombudsman Serv	\$172,584.68			
Warren Organizational Sustainment	\$1,852,848.61			
Unassigned Resources	\$0.00			
TACOM-wide and AMC-wide Programs	\$213,161.42			
CBO Management-W	\$121,225.42			
PM Direct Support-W	\$567,187.99			
Rock Island	\$2,872,571.03			ACC-W-RIA
Repair Parts Procurement-RIA	\$1,687,678.30			ACC-RIA
Repair Parts Delivery Orders-RIA	\$126,841.51	200.00	\$634.21	ACC-RIA-RPP-DO
Repair Parts Purchase Orders-RIA	\$317,295.28	200.00	\$1,586.48	ACC-RIA-RPP-PO
Repair Parts Contracts-RIA	\$710,964.60	200.00	\$3,554.82	ACC-RIA-RPP-C
Repair Parts IDIQ Basic -RIA	\$6,509.74	1.00	\$6,509.74	ACC-RIA-RPP-IDIQ
Repair Parts Contract Administration-RIA	\$526,067.16	1,500.00	\$350.71	ACC-RIA-RPP-CA
Systems Procurement-RIA	\$1,064,769.37			ACC-RIA-SP

Note: Numbers are notional

Comparisons
between
workgroups



8. Costs can further be identified by Customer and by Weapon System

The screenshot shows the Oros Modeler interface with a "Cost Object [2ndQtrFY02] [Named View -]" title bar. The menu bar includes File, Edit, Model, Modules, Period, View, Tools, Window, and Help. The toolbar has various icons for file operations like Open, Save, Print, and zoom. The main window displays a hierarchical tree view of cost objects and a detailed table of costs.

Name	Cost	UserOutputQty	UnitCost	ReferenceNumber
Cost Object	\$14,338,620.66			
Acquisition Center Services	\$14,338,620.66			ACC
Customers	\$6,630,605.89			10
ARDEC	\$2,641,985.67		2,641,985.67	6
Systems Contracts-PICA	\$1,573,686.75		1,573,686.75	ACC-PICA-SP-1
Systems Purchase Orders-PICA	\$461,925.16		\$461,925.16	ACC-PICA-SP-2
Systems Contract Administration-PICA	\$606,373.75		\$606,373.75	ACC-PICA-SP-3
TARDEC	\$0.00		\$0.00	7
TSAC (FMS)	\$0.00		\$0.00	8
PEO CS&CSS	\$0.00		\$0.00	9
PEO GCS	\$0.00		\$0.00	10
PEO AMMO	\$0.00		\$0.00	11
PEO SOLDIER	\$0.00		\$0.00	12
CBO	\$3,988,620.22	3,988,620.22	37	
CBO Management-W	\$121,225.42		\$121,225.42	ACC-W-CBO-1
Repair Parts Contracts-W	\$830,226.46		\$830,226.46	ACC-W-RP-C
Repair Parts Purchase Orders-W	\$361,685.76		\$361,685.76	ACC-W-RP-PO
Repair Parts Contract Administration-W	\$1,099,971.34		1,099,971.34	ACC-W-RP-CA
Repair Parts Contracts-RIA	\$710,964.60		\$710,964.60	ACC-RIA-RPP-C
Repair Parts Purchase Orders-RIA	\$317,295.28		\$317,295.28	ACC-RIA-RPP-PO
Repair Parts Contract Administration-RIA	\$526,067.16		\$526,067.16	ACC-RIA-RPP-CA
CBO Management-RIA	\$21,184.20		\$21,184.20	ACC-RIA-CBO-1
SBCCOM-RI	\$0.00		\$0.00	38
PEO CHEMICAL & BIOLOGICAL DEFENSE	\$0.00		\$0.00	39
Weapons Systems				

Note: Numbers are notional

Note: TACOM prototype model did not fully complete these assignments.

9. Sample Report - Activity Contributions to “Repair Parts Contracts”

Note: This report shows the “fully-burdened” cost of repair parts contracts, including indirect and overhead activities.

Activity	Cost Center	Amount	Percentage
Repair Parts Purchase Orders-W	ACC-W-OS-3	\$145,052.90	40.10%
Receive/Evaluate Offers and Award PWD	ACC-W-T	\$99,131.43	27.41%
Plan Acquisition/Solicit Offer	ACC-W-OS-1	\$42,808.72	11.84%
Recruitment & Workforce Development	ACC-W-OS-2	\$22,237.12	6.15%
Management and Administrative	ACT-4-2-W	\$19,643.70	5.43%
Maintain Procurement Systems/Infrastruc	ACT-4-1-W	\$12,890.54	3.56%
Analyze & Improve Procurement Mission	ACC-W-UR-1	\$10,284.29	2.84%
Business Sustainment-W		\$9,637.07	2.66%
TACOM-wide and AMC-wide Programs		\$0.00	0.00%
UnAssigned Resources		\$361,685.76	100.00%
Total Cost		\$0.00	0.00%
Total Bill of Costs		\$361,685.76	100.00%
Total Entered and Assigned Cost			
Repair Parts Contracts-W	ACC-W-RP-C	\$830,226.46	
Output ():		300.00	
Plan Acquisition/Solicit Offers for Rep	ACT-1-RE-W	\$297,394.29	35.82%
Receive/Evaluate Offers and Award PWD	ACT-2-RE-W	\$290,105.80	34.94%
Recruitment & Workforce Development-W	ACC-W-OS-1	\$97,589.47	11.75%
Management and Administrative Support-W	ACC-W-OS-2	\$50,693.13	6.11%
Analyze & Improve Procurement Mission	ACT-4-2-W	\$29,386.08	3.54%
Business Sustainment-W	ACC-W-OS-3	\$23,444.71	2.82%
TACOM-wide and AMC-wide Programs	ACC-W-T	\$21,969.27	2.65%
Maintain Procurement Systems/Infrastruc	ACT-4-1-W	\$19,643.70	2.37%
UnAssigned Resources	ACC-W-UR-1	\$0.00	0.00%
Total Cost		\$830,226.46	100.00%
Total Bill of Costs		\$0.00	0.00%
Total Entered and Assigned Cost		\$830,226.46	100.00%

Note: Numbers are notional

10. Sample Report - Resource Contributions to “Repair Parts Contracts”

Oros Modeler - [Resource Contributions]

File Edit Model Modules Period View Tools Window Help

Name Ref No Module Actl Cost Actl %

Repair Parts Contracts-W	ACC-W-RP-C	C	\$830,226.46	100.00%
Attribute: AQ			\$28,880.10	3.48%
All Non-Labor Costs, Warren Acq Ctr	AQ-W-NONLABOR	R	\$20,115.75	2.42%
AQ front office & Deputy for Contracting	WG-AQ FRONT OFFR		\$8,764.35	1.06%
Attribute: AQ-X			\$26,884.76	3.24%
Business Mgt Office (Salaries)	WG-AQ-X	R	\$26,884.76	3.24%
Attribute: AQ-AB			\$36,094.79	4.35%
R&D/Base/SNAP Contracting Div (Salaries)	WG-AQ-AB	R	\$34,096.91	4.11%
R&D/Base/SNAP Contracting Div (AMC Interns)	WG-AQ-AB-AMC	R	\$1,997.88	0.24%
Attribute: AQ-AM			\$62,982.12	7.59%
Process Mgt Div (Salaries)	WG-AQ-AM	R	\$62,982.12	7.59%
Attribute: AQ-AD			\$142,999.57	17.22%
Deployment Support Div (Salaries)	WG-AQ-AD	R	\$136,837.57	16.48%
Deployment Support Div (AMC Interns)	WG-AQ-AD-AMC	R	\$6,138.21	0.74%
Deployment Support Div (Military)	WG-AQ-AD-MIL	R	\$23.78	0.00%
Attribute: AQ-AH			\$183,559.03	22.11%
Heavy Combat Div (Salaries)	WG-AQ-AH	R	\$171,282.61	20.63%
Heavy Combat Div (AMC Interns)	WG-AQ-AH-AMC	R	\$12,276.42	1.48%
Attribute: AQ-AL			\$112,713.58	13.58%
Light Combat Div (Salaries)	WG-AQ-AL	R	\$111,343.60	13.41%
Light Combat Div (AMC Interns)	WG-AQ-AL-AMC	R	\$1,369.98	0.17%
			\$231,227.68	27.85%
WG-AQ-AT	R		\$231,227.68	27.85%
WG-AQ-AT-AMC	R		\$0.00	0.00%
			\$3,029.63	0.36%
WG-AQ-I	R		\$3,029.63	0.36%
			\$1,855.20	0.22%
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Note: This report shows the “fully-burdened” costs of repair parts contracts, including salaries for “overhead”

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Lessons Learned

- ABC estimates **average** costs of processes and outputs
 - Detailed management reports available on workgroup contributions and resource contributions
 - Can be reported by customer and by weapon system
- Relatively simple data collection needed
 - Resource dollars from Resource Management
 - Activity labor hours by spreadsheet (completed by managers). Plan to pursue automated tools.
 - Award counts through systems queries (PADDS, SAACONS, SPS, etc.)



Future of ABC

- Integration of ABC process and data to existing systems
 - AMSAA requirements study
 - Lean Think initiatives
 - Balanced Scorecard
- Expansion of ABC modeling process and AMC standard activity dictionary to all AMC MSCs
- Continued fine-tuning of ABC and Cost Management process